



PRELIMINARY DETERMINATION
ON PERMIT APPLICATION

Date of Mailing: February 3, 2017

Name of Applicant: CHS Inc. d.b.a. CHS Mountain West Co-op - Kalispell

Source: Grain Handling Facility and Dry Fertilizer Storage Facility

Proposed Action: The Department of Environmental Quality (Department) proposes to issue a permit, with conditions, to the above-named applicant. The application was assigned Permit Application Number 5170-00.

Proposed Conditions: See attached.

Public Comment: Any member of the public desiring to comment must submit such comments in writing to the Air Quality Bureau (Bureau) of the Department at the above address. Comments may address the Department's analysis and determination, or the information submitted in the application. In order to be considered, comments on this Preliminary Determination are due by March 6, 2017. Copies of the application and the Department's analysis may be inspected at the Bureau's office in Helena. For more information, you may contact the Department.

Departmental Action: The Department intends to make a decision on the application after expiration of the Public Comment period described above. A copy of the decision may be obtained at the above address. The permit shall become final on the date stated in the Department's Decision on this permit, unless an appeal is filed with the Board of Environmental Review (Board).

Procedures for Appeal: Any person jointly or severally adversely affected by the final action may request a hearing before the Board. Any appeal must be filed by the date stated in the Department's Decision on this permit. The request for a hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for a hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, MT 59620.

For the Department,

A handwritten signature in black ink that reads "Julie A. Merkel".

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

A handwritten signature in black ink that reads "Craig Henrikson".

Craig Henrikson P.E.
Environmental Engineer
Air Quality Bureau
(406) 444-6711

JM:CH
Enclosures

MONTANA AIR QUALITY PERMIT

Issued To: CHS Inc.
Glacier Rail Park
801 Whitefish Stage
Kalispell, MT 59901

MAQP: #5170-00
Application Complete: 12/28/2016
Preliminary Determination Issued: 2/3/2017
Department's Decision Issued:
Permit Final:
AFS #: 029-0036

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to CHS Inc (d.b.a. CHS Mountain West Co-op – Kalispell) (CHS), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

Section I: Permitted Facilities

A. Permitted Equipment

CHS is proposing to construct and operate a dual purpose facility which would serve as both a country grain elevator and dry fertilizer storage facility. The facility will have permanent grain storage capacity of approximately 550,000 bushels (bu) and receiving and load-out capacity each at 20,000 bu per hour. Fertilizer receiving and load-out will each be rated at 180 tons/hour with permanent storage of approximately 4,000 tons. The facility will also utilize a natural gas-fired grain dryer with maximum heat capacity of 26.34 million British thermal units per hour (MMBTU/hour).

B. Plant Location

CHS's proposed location is in a current industrial area that is owned by the County of Flathead. The proposed location is approximately one mile northeast of central Kalispell located at the NE ¼ NW ¼ Section 8, Township 28 North, 21 West, Flathead County, Montana.

Section II: Conditions and Limitations

A. Emission Limitations

1. The grain elevator throughput shall not exceed 2,700,000 bu per rolling 12-month time period (ARM 17.8.1204).
2. The dry fertilizer throughput shall not exceed 12,000 tons per rolling 12-month time period (ARM 17.8.1204).
3. CHS shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

4. CHS shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
5. CHS shall have less than two feet of drop distance from the grain railcar bottoms to grate and from hopper truck to grate to minimize particulate emissions (ARM 17.8.752).
6. CHS shall install a cyclone at the grain elevator to control emissions captured from the receiving pits (ARM 17.8.752).
7. CHS shall fire the grain dryer on natural gas only (ARM 17.8.752).
8. CHS shall install and operate a grain loadout spout, or a similar apparatus, from the hopper discharge to the railcar to minimize drop distance (ARM 17.8.752).
9. CHS shall use enclosed equipment for mixing and handling activities, including the corresponding elevator legs and conveyors inside the building to minimize airborne particulate matter and to maintain compliance with opacity limitations in Section II.A.3 (ARM 17.8.752).
10. CHS shall only convey fertilizer from the receiving pit up inside the building by an enclosed conveyor and leg system (ARM 17.8.752).
11. CHS shall handle and mix dry fertilizer inside the building. The blending equipment, including the feeding auger, shall be enclosed (ARM 17.8.752).
12. CHS shall install and operate a loadout spout, or a similar apparatus, for fertilizer loading from the hopper discharge to the truck to minimize drop distance (ARM 17.8.752).
13. CHS shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.3. CHS shall limit the speed of the trucks entering and exiting the facility to 15 mph (ARM 17.8.752).

B. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department of Environmental Quality (Department) may require testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. CHS shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). CHS shall submit the following information annually to the Department by February 15th of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

- a. annual grain throughput
 - b. annual fertilizer throughput
2. CHS shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit***, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).
3. All records compiled in accordance with this permit must be maintained by CHS as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request. These records may be stored at a location other than the plant site upon approval by the Department (ARM 17.8.749).
4. CHS shall document, by month, the grain elevator throughput. By the 25th day of each month, CHS shall total the grain elevator throughput for the previous 12 months. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
5. CHS shall document, by month, the dry fertilizer throughput. By the 25th day of each month, CHS shall total the dry fertilizer throughput for the previous 12 months. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.2. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. CHS shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Notification

CHS shall provide the Department with written notification of the following dates within the specified time periods (ARM 17.8.749):

1. Within 15 days after the actual start-up date of the grain elevator, CHS shall submit written notification to the Department of the initial start-up date of the affected equipment.
2. Within 15 days after the actual start-up date of the fertilizer plant, CHS shall submit written notification to the Department of the initial start-up date of the affected equipment.

Section III: General Conditions

- A. Inspection – CHS shall allow the Department’s representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if CHS fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving CHS of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.

- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by CHS may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
CHS Inc. d.b.a. CHS Mountain West Co-op
MAQP #5170-00

I. Introduction/Process Description

CHS Inc. (CHS) is proposing to construct and operate a dual-purpose country grain elevator and a dry fertilizer storage facility. The facility would be constructed in an area being developed as an industrial park approximately one mile northeast of central Kalispell, MT. The legal description of the proposed location is in NE ¼ NW ¼ Section 8, Township 28 North, 21 West, Flathead County, Montana.

A. Permitted Equipment

CHS is proposing to construct and operate a facility which would provide both a country grain elevator and a dry fertilizer storage operation. The facility will have permanent grain storage capacity of approximately 550,000 bushels (bu), and receiving and load-out capacity each at 20,000 bu per hour. Fertilizer receiving and load-out will each be rated at 180 tons/hour with permanent storage of approximately 4,000 tons. The facility will also utilize a natural gas-fired grain dryer with maximum heat capacity of 26.34 Million BTU/hour. Equipment used at this facility will include, but is not limited to the following:

Grain Handling Facility

- Permanent storage capacity of 550,000 bushels
- Eight (8) 24,000 bushel cone-bottom bins
- Two (2) 10,000 bushel cone-bottom bins
- One (1) 132,000 bushel flat-bottom bin
- Two (2) 10,000 bushels per hour receiving/shipping legs
- Truck Receiving Pit
- Receiving pit dust collection system (cyclone or equivalent)
- Receiving building and control room
- Two (2) 10,000 bushels per hour fill/distribution drags
- Two (2) 10,000 bushels per hour reclaim drags
- One (1) 25,000 bushels per hour bulk weigher
- Rail shipping
- One (1) 2,500 bushel/hour natural gas-fired grain dryer rated at 26.34 MBtu/hour
- One inbound/outbound scale
- Associated conveyors
- Associated auxiliary equipment/ building structures

Dry Fertilizer Storage Facility

- Dry bulk fertilizer storage (4,000 tons capacity)
- Six (6) bulk bins
- Two (2) micro bins
- 180 tons per hour receiving system
- 180 tons per hour mixing system
- 180 tons per hour loadout system
- Associated legs and conveyors
- Associated auxiliary equipment/structures

B. Source Description

The country grain elevator portion of the facility is designed to receive grain and beans from local farmers for storage until shipment to a variety of markets via rail car/or truck. Area grain will be hauled to this grain facility from local farmers primarily via hopper trucks with some straight trucks. The facility will also utilize a natural gas-fired grain dryer. Grain will be shipped out primarily by railcar with some truck deliveries. The projected annual throughput limit for the grain elevator was requested to be 2,700,000 bushels.

The dry fertilizer portion of the facility will store, mix and handle fertilizer to provide seasonal availability for field application by local farmers. The projected annual throughput limit for fertilizer was requested to be 12,000 tons per year.

C. Response to Public Comments (Will be included here in Decision if received)

| Person/Group Commenting | Permit Reference | Comment | Department Response |
|-------------------------|------------------|---------|---------------------|
| | | | |

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

CHS shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM10
11. ARM 17.8.230 Fluoride in Forage

CHS must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, CHS shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes.
6. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
7. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
8. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.
9. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This source shall comply with the standards and provisions of 40 CFR Part 61, as appropriate. This facility is not subject to 40 CFR Part 61.
10. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below: This facility is not subject to 40 CFR Part 63.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. CHS submitted the appropriate permit application fee for the current permit action.
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the uncontrolled potential to emit (PTE) greater than 25 tons per year of any pollutant. CHS has an uncontrolled PTE greater than 25 tons per year of particulate matter (PM), PM with an aerodynamic diameter of 10 microns or less (PM₁₀) and PM with an aerodynamic diameter of 2.5 microns or less (PM_{2.5}); therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. CHS submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. CHS submitted an affidavit of publication of public notice for the December 20, 2016, issue of the Daily Inter Lake, a newspaper of general circulation in the Town of Kalispell in Flathead County, as proof of compliance with the public notice requirements.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving CHS of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
 15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.
 16. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).
- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions) as the facility has taken limits to stay below 100 tons per year. Further, CHS has taken production limits to stay below a potential to emit of 25 tons per year of PM₁₀ to stay below state of Montana guidelines for modeling thresholds.

- G. ARM 17.8, Subchapter 9 – Permit Requirements for Major Stationary Sources or Major Modifications Locating Within Nonattainment Areas, including, but not limited to:

The facility is not a major source nor considered a major modification.

- H. ARM 17.8, Subchapter 10 – Preconstruction Permit Requirements for Major Stationary Sources of Modifications Located Within Attainment or Unclassified Areas, including, but not limited to:

ARM 17.8.1004 When Air Quality Preconstruction Permit Required. This current permit action does not constitute a major modification. Therefore, the requirements of this subchapter do not apply.

- I. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 tons/year of any pollutant;
 - b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) in a serious PM₁₀ nonattainment area.
 2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #5170-00 for CHS, the following conclusions were made:
 - a. The facility's PTE is less than 100 tons/year for any pollutant.
 - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is not subject to any current NSPS.
 - e. This facility is not subject to any current NESHAP standards.
 - f. This source is not a Title IV affected source, or a solid waste combustion unit.
 - g. This source is not an EPA designated Title V source.
 - h. As allowed by ARM 17.8.1204(3), the Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's potential to emit.
 - i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's potential to emit, does not require the source to obtain an air quality operating permit.
 - ii. Any source that obtains a federally enforceable limit on potential to emit shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

CHS has taken federally enforceable permit limits to keep potential emissions below major source permitting thresholds. Therefore, the facility is not a major source and thus a Title V operating permit is not required.

The Department determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness.

CHS shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204 (3)(b). The annual certification shall comply with requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

Based on these facts, the Department determined that CHS will be a minor source of emissions as defined under Title V based on a requested federally enforceable permit limit.

III. BACT Determination

A BACT determination is required for each new or modified source. CHS shall install on the new or modified source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

A BACT analysis was submitted by CHS in permit application #5170-00, addressing some available methods of controlling particulate matter emissions from both the grain elevator and fertilizer storage facility. The Department reviewed these methods, as well as previous BACT determinations. The following control options have been reviewed by the Department in order to make the following BACT determination.

Grain Elevator

A. Electrostatic Precipitator (ESP)

An ESP ionizes the contaminated air flowing between oppositely charged electrodes. These charged particles migrate toward the oppositely charged plates, which are eventually removed and collected at the bottom of the ESP. An ESP can handle large gas volumes and very efficiency at removing small particles with high removal efficiencies ranging from approximately 90% to 99%. While an ESP can achieve high removal efficiencies, the footprint, construction, installation, operation and maintenance costs of an ESP are significantly higher than other control technologies and best management practices. In addition, there are corresponding energy and environmental impacts associated with the operation of an ESP. For these reasons, CHS did not select an ESP as BACT for this facility.

B. Baghouse

Fabric dust filtration equipment (baghouse) is used to collect dry particles from a gas stream. As the gas stream passes through the fabric dust filter, the dust particles are collected and retained by the fabric. A baghouse is very efficient at removing small particles and high particulate mass loadings, with removal efficiencies commonly ranging from 95% to 99%. A baghouse can achieve high removal efficiencies and the installation and operation costs of a baghouse are considerably less than an ESP. The construction, installation, and operation of a baghouse for the control of a small amount of particulate matter emissions would not be cost effective. In addition, there are energy and environmental impacts that would result relative to the small quantity of particulate matter removed by the baghouse. Therefore, a fabric filter for this location was not chosen.

C. Cyclone

Cyclone separators are designed to remove particles by inducing a vortex as the gas stream enters a conical chamber, causing the exhaust gas stream to flow in a spiral pattern. Centrifugal forces cause the larger particles to concentrate on the outside of the vortex and consequently slide down the outer wall and fall to the bottom of the cyclone, where they are removed. The cleaned gas flows out of the top the cyclone. Cyclone control efficiencies range from 50 to 99%, with higher efficiencies being achieved with large particles and low efficiencies for smaller particles (PM₁₀ and PM_{2.5}). Cyclone construction and operation have relatively lower costs compared to other particulate control technologies. CHS has determined that installation of a cyclone for the grain receiving operation constitutes BACT, because it is the part of the operation with the highest uncontrolled emissions.

D. Enclosed Equipment/Building

The use of enclosed equipment and building for dry fertilizer handling, mixing and loading activities serves to isolate these activities from emissions and wind disturbance that could mobilize dust generated during transfer activities. Control efficiencies of enclosures around conveyors and legs are up to 99%. It is estimated the control efficiency associated with conducting handling/mixing and load-out activities inside the building is up to 80%. CHS has determined that the installation of enclosed equipment and conducting handling/mixing and load-out activities inside the dry fertilizer building constitutes BACT for the operations at this location.

E. Grain Drying

Tower grain dryers do not typically have particulate control because there is not a single stack. The column has perforations throughout the length of the tower to maximize air movement and drying efficiency. Combustion emissions in the dryer are minimized by limiting the fuel to natural gas. CHS has determined that the use of natural gas to fire the dryer constitutes BACT for the operations at this location.

Based on our review of the options, CHS is proposing to install, operate, and maintain the following emission control methods for BACT:

Grain Receiving – Truck:

1. Drop distance from hopper truck bottoms to grate will be approximately 2 feet or less to minimize emissions.
2. Install a cyclone to control emissions captured from the receiving pits.

Grain Shipping – Rail:

Installation and use of a loadout spout from the hopper discharge to the railcar or similar apparatus to minimize drop distance.

Grain Handling and Storage:

Utilize enclosed conveyors and legs.

Grain Drying:

Operate on natural gas only.

Dry Fertilizer Receiving – Railcar and Truck:

1. Drop distance from railcar bottoms to grate will be approximately 2 feet or less to minimize emissions.
2. Drop distance from hopper truck bottoms to grate will be approximately 2 feet or less to minimize emissions.
3. Dry fertilizer will be conveyed from the receiving pit up inside the building by an enclosed conveyor and leg system eliminating particulate matter emissions.

Dry Fertilizer Handling/Mixing:

1. Handling and mixing of dry fertilizer will be conducted inside the dry fertilizer building.
2. The blending equipment including the feeding auger will be enclosed.

Dry Fertilizer Truck Loadout:

1. Truck loading will be conducted inside the dry fertilizer building. Entry and exit rollup doors located on each end of the building may be open during load-out activities.
2. Installation and use of a loadout spout from the hopper discharge to the truck or similar apparatus to minimize drop distance.

Unpaved Haul Roadway and Parking Area:

Fugitive dust emissions generated from truck traffic associated with the grain elevator and dry fertilizer operations will be addressed in accordance with a fugitive dust control plan for the facility. Control measures will consist of the application of chemical compounds and/or water as appropriate during dry conditions. Drivers will be instructed to limit their vehicle speed to a maximum of 15 mile per hour on-site at all times.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

| | Emissions Tons/Year [PTE] | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------|-------|------|-------|------|------|
| | PM | PM10 | PM2.5 | CO | NOx | SO2 | VOC |
| Grain Receiving Fugitive | 1.46 | 0.48 | 0.08 | -- | -- | -- | -- |
| Stack Grain Receiving Emissions | 1.17 | 0.48 | 0.08 | -- | -- | -- | -- |
| Storage Bin Vent | 1.01 | 0.26 | 0.04 | -- | -- | -- | -- |
| Headhouse and Handling | 7.41 | 4.13 | 0.70 | -- | -- | -- | -- |
| Rail Loadout | 1.09 | 0.09 | 0.01 | | | | |
| Truck Loadout | 3.48 | 1.17 | 0.20 | | | | |
| Grain Dryer | 8.91 | 2.23 | 0.38 | -- | -- | -- | -- |
| Grain Dry Combustion | 0.86 | 0.86 | 0.86 | 9.49 | 11.30 | 0.07 | 0.62 |
| Dry Fertilizer Receiving | 0.12 | 0.12 | 0.12 | | | | |
| Dry Fertilizer Handling and Mixing | 0.12 | 0.12 | 0.12 | | | | |
| Dry Fertilizer Shipping | 0.12 | 0.12 | 0.12 | -- | -- | -- | -- |
| Unpaved Haul Roads | 8.49 | 4.68 | 0.30 | -- | -- | -- | -- |
| EMISSION EXCLUDING ROADS | 25.75 | 10.05 | 2.72 | 9.49 | 11.30 | 0.07 | 0.62 |
| CO, carbon monoxide NO _x , oxides of nitrogen PM, particulate matter PM ₁₀ , particulate matter with an aerodynamic diameter of 10 microns or less PM _{2.5} , particulate matter with an aerodynamic diameter of 2.5 microns or less SO ₂ , oxides of sulfur TPY, tons per year VOC, volatile organic compounds | | | | | | | |

The emission inventory reflects enforceable limits on production as requested by the facility to keep emissions below the Title V threshold of 100 tpy and to keep PM10 allowable emissions below 25 tpy to avoid non-attainment modeling.

Grain Receiving Hopper Truck Assumed for All Operations SCC-3-02-005-51

Current Annual Totals 2,700,000 bushels Per year as submitted by CHS Permit Application

Current Annual Totals 81,000 Tons Per Year As Submitted by CHS Permit Application

Operating Schedule: 2,700,000 bushels averaged over 8,760 hours

Particulate Emissions: Emission Factor Determination (80% Capture) Fugitives

Fugitive

PM Emissions Straight Truck

Emission Rate 0.180 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations (0.18 lb/ton) * 81000 tons/year * 0.0005 ton/lb= 7.29 tpy

With Control Applied 80 Percent Capture 1.46 tpy

PM10 Emissions

Emission Rate 0.0590 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations (0.059 lb/ton) * 81000 tons/year * 0.0005 ton/lb= 2.39 tpy

With Control Applied 80 Percent Capture 0.48 tpy

PM2.5 Emissions

Emission Rate 0.0100 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations (0.01 lb/ton) * 81000 tons/year * 0.0005 ton/lb= 0.41 tpy

With Control Applied 80 Percent Capture 0.08 tpy

Particulate Emissions: Emission Factor Determination (80% Capture)

Stack SCC 3-02-005-51

PM Emissions Straight Truck

Emission Rate 0.180 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.18 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb} * 0.8 * .20 = 1.17 \text{ tpy}$

With Control Applied 80 Percent Control

PM10 Emissions

Emission Rate 0.0590 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.059 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb} * 0.8 * 0.25 = 0.48 \text{ tpy}$

With Control Applied 75 Percent Control

PM2.5 Emissions

Emission Rate 0.0100 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.01 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb} * 0.8 * .25 = 0.08 \text{ tpy}$

With Control Applied 75 Percent Control

Storage Bin Vent 3-02-005-40

Current Annual Totals 81,000 Tons Per Year

PM Emissions

Emission Rate 0.025 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.025 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb} = 1.01 \text{ tpy}$

PM10 Emissions

Emission Rate 0.006 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.0063 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb} = 0.26 \text{ tpy}$

PM2.5 Emissions

Emission Rate 0.0011 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.0011 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb} = 0.04 \text{ tpy}$ **Headhouse and Handling Including Legs SCC 3-02-005-30**

Current Annual Totals 243,000 Tons Per Year

Handling is assumed 3X receiving limit

PM Emissions

Emission Rate 0.061 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.061 \text{ lb/ton}) * 243000 \text{ tons/year} * 0.0005 \text{ ton/lb} = 7.41 \text{ tpy}$

PM10 Emissions

Emission Rate 0.034 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.034 \text{ lb/ton}) * 243000 \text{ tons/year} * 0.0005 \text{ ton/lb} = 4.13 \text{ tpy}$

PM2.5 Emissions

Emission Rate 0.0058 lb/ton [AP-42 Table 9.9.1-1 4/03] PM10 divided by 2

Calculations $(0.0058 \text{ lb/ton}) * 243000 \text{ tons/year} * 0.0005 \text{ ton/lb} = 0.70 \text{ tpy}$ **Rail Loadout (Uncontrolled) SCC 3-02-005-63**

Current Annual Totals 81,000 Tons Per Year

| | | | | | |
|---------------|-------|--------|-----------------------------------------------------------------------------|------|-----|
| PM Emissions | | | | | |
| Emission Rate | 0.027 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | | |
| Calculations | | | $(0.027 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb=}$ | 1.09 | tpy |

| | | | | | |
|----------------|-------|--------|------------------------------------------------------------------------------|------|-----|
| PM10 Emissions | | | | | |
| Emission Rate | 0.002 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | | |
| Calculations | | | $(0.0022 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb=}$ | 0.09 | tpy |

| | | | | | |
|-----------------|--------|--------|-------------------------------------------------------------------------------|------|-----|
| PM2.5 Emissions | | | | | |
| Emission Rate | 0.0004 | lb/ton | [AP-42 Table 9.9.1-1 4/03] PM10 divided by 2 | | |
| Calculations | | | $(0.00037 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb=}$ | 0.01 | tpy |

Truck Loadout (Uncontrolled) SCC 3-02-005-60

Current Annual Totals 81,000 Tons Per Year

| | | | | | |
|---------------|-------|--------|-----------------------------------------------------------------------------|------|-----|
| PM Emissions | | | | | |
| Emission Rate | 0.086 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | | |
| Calculations | | | $(0.086 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb=}$ | 3.48 | tpy |

| | | | | | |
|----------------|-------|--------|-----------------------------------------------------------------------------|------|-----|
| PM10 Emissions | | | | | |
| Emission Rate | 0.029 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | | |
| Calculations | | | $(0.029 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb=}$ | 1.17 | tpy |

| | | | | | |
|-----------------|--------|--------|------------------------------------------------------------------------------|------|-----|
| PM2.5 Emissions | | | | | |
| Emission Rate | 0.0049 | lb/ton | [AP-42 Table 9.9.1-1 4/03] PM10 divided by 2 | | |
| Calculations | | | $(0.0049 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb=}$ | 0.20 | tpy |

Grain Dryer SCC 3-02-005-27

Current Annual Totals 81,000 Tons Per Year

| | | | | | |
|---------------|-------|--------|----------------------------------------------------------------------------|------|-----|
| PM Emissions | | | | | |
| Emission Rate | 0.220 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | | |
| Calculations | | | $(0.22 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb=}$ | 8.91 | tpy |

| | | | | | |
|----------------|-------|--------|-----------------------------------------------------------------------------|------|-----|
| PM10 Emissions | | | | | |
| Emission Rate | 0.055 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | | |
| Calculations | | | $(0.055 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb=}$ | 2.23 | tpy |

| | | | | | |
|-----------------|--------|--------|------------------------------------------------------------------------------|------|-----|
| PM2.5 Emissions | | | | | |
| Emission Rate | 0.0094 | lb/ton | [AP-42 Table 9.9.1-1 4/03] PM10 divided by 2 | | |
| Calculations | | | $(0.0094 \text{ lb/ton}) * 81000 \text{ tons/year} * 0.0005 \text{ ton/lb=}$ | 0.38 | tpy |

Grain Dryer Combustion

| | | | | |
|---------------|--------|----------|------------|----------|
| Maximum | 226.00 | MMcf/yr | 0.02579909 | MMscf/hr |
| process rate: | | | | |
| | 26.30 | MMBtu/hr | | |

| | | |
|------------|------|-------------------------------------------------|
| PM | | |
| Emissions: | | |
| Emission | 7.60 | (lb/MMBtu) (AP-42, Table 1.4-2, Total PM, 7/98) |
| Factor: | | |

Calculation: $(0.02579909 \text{ MMscf/hr}) * (7.6 \text{ lb/MMBtu}) * (1 \text{ ton}/2000 \text{ lb}) = 0.86 \text{ tpy}$

PM10 Emissions:

Emission 7.6 lb/MMBtu (AP-42, Table 1.4-2, PM=PM10, 7/98)

Factor:

Calculation: $(0.02579909 \text{ MMscf/hr}) * (7.6 \text{ lb/MMBtu}) * (1 \text{ ton}/2000 \text{ lb}) = 0.86 \text{ tpy}$

PM2.5 Emissions:

Emission 7.6 lb/MMBtu (AP-42, Table 1.4-2, PM=PM10, 7/98)

Factor:

Calculation: $(0.02579909 \text{ MMscf/hr}) * (7.6 \text{ lb/MMBtu}) * (1 \text{ ton}/2000 \text{ lb}) = 0.86 \text{ tpy}$

NOx Emissions:

Emission 100 lb/MMBtu (AP-42, Table 1.4-2, PM=PM10, 7/98)

Factor:

Calculation: $(0.02579909 \text{ MMscf/hr}) * (100 \text{ lb/MMBtu}) * (1 \text{ ton}/2000 \text{ lb}) = 11.30 \text{ tpy}$

CO Emissions

Emission 84 lb/MMBtu (AP-42, Table 1.4-1, 7/98)

Factor:

Calculation: $(0.02579909 \text{ MMscf/hr}) * (84 \text{ lb/MMBtu}) * (1 \text{ ton}/2000 \text{ lb}) = 9.49 \text{ tpy}$

VOC Emissions

Emission 5.5 lb/MMBtu (AP-42, Table 1.4-1, 7/98)

Factor:

Calculation: $(0.02579909 \text{ MMscf/hr}) * (5.5 \text{ lb/MMBtu}) * (1 \text{ ton}/2000 \text{ lb}) = 0.62 \text{ tpy}$

SO2 Emissions

Emission 0.6 lb/MMBtu (AP-42, Table 1.4-1, 7/98)

Factor:

Calculation: $(0.02579909 \text{ MMscf/hr}) * (0.6 \text{ lb/MMBtu}) * (1 \text{ ton}/2000 \text{ lb}) = 0.07 \text{ tpy}$

Dry Fertilizer Receiving (Truck or Rail) 3-05-104-97

Current Annual Totals 12,000 Tons Per Year as Submitted by CHS

Assumes all loaded out using Trucks

PM Emissions Emission Factor is Industry Source & Application

Emission Rate 0.0200 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.02 \text{ lb/ton}) * 12000 \text{ tons/year} * 0.0005 \text{ lbs/ton} = 0.12 \text{ tpy}$

PM10 Emissions

Emission Rate 0.0200 lb/ton [AP-42 Table 9.9.1-1 4/03]

Calculations $(0.02 \text{ lb/ton}) * 12000 \text{ tons/year} * 0.0005 \text{ lbs/ton} = 0.12 \text{ tpy}$

PM2.5 Emissions

Emission Rate 0.0200 lb/ton [AP-42 Table 9.9.1-1 4/03 PM10 divided by 2]

Calculations $(0.02 \text{ lb/ton}) * 12000 \text{ tons/year} * 0.0005 \text{ lbs/ton} = 0.12 \text{ tpy}$

Dry Fertilizer Handling and Mixing 3-05-101-97

Current Annual Totals 12,000 Tons Per Year as Submitted by CHS

Assumes all loaded out using Trucks

PM Emissions

| | | | | |
|---------------|--------|----------------------------------------------------|----------------------------|----------|
| Emission Rate | 0.0200 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | |
| Calculations | | (0.02 lb/ton) * 12000 tons/year * 0.0005 lbs/ton = | | 0.12 tpy |

PM10 Emissions

| | | | | |
|---------------|--------|----------------------------------------------------|----------------------------|----------|
| Emission Rate | 0.0200 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | |
| Calculations | | (0.02 lb/ton) * 12000 tons/year * 0.0005 lbs/ton = | | 0.12 tpy |

PM2.5 Emissions

| | | | | |
|---------------|--------|----------------------------------------------------|----------------------------------------------|----------|
| Emission Rate | 0.0200 | lb/ton | [AP-42 Table 9.9.1-1 4/03 PM10 divided by 2] | |
| Calculations | | (0.02 lb/ton) * 12000 tons/year * 0.0005 lbs/ton = | | 0.12 tpy |

Dry Fertilizer Shipping 3-05-105-97

| | | |
|-----------------------|--------|-------------------------------------|
| Current Annual Totals | 12,000 | Tons Per Year as Submitted by CHS |
| | | Assumes all loaded out using Trucks |

PM Emissions

| | | | | |
|---------------|--------|----------------------------------------------------|----------------------------|----------|
| Emission Rate | 0.0200 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | |
| Calculations | | (0.02 lb/ton) * 12000 tons/year * 0.0005 lbs/ton = | | 0.12 tpy |

PM10 Emissions

| | | | | |
|---------------|--------|----------------------------------------------------|----------------------------|----------|
| Emission Rate | 0.0200 | lb/ton | [AP-42 Table 9.9.1-1 4/03] | |
| Calculations | | (0.02 lb/ton) * 12000 tons/year * 0.0005 lbs/ton = | | 0.12 tpy |

PM2.5 Emissions

| | | | | |
|---------------|--------|----------------------------------------------------|----------------------------------------------|----------|
| Emission Rate | 0.0200 | lb/ton | [AP-42 Table 9.9.1-1 4/03 PM10 divided by 2] | |
| Calculations | | (0.02 lb/ton) * 12000 tons/year * 0.0005 lbs/ton = | | 0.12 tpy |

Unpaved Roadways (Haul Roads)

| | | | |
|-----------------|-------------------------------------------------------------------|---|------------------------------------|
| Emission Factor | $EF = k(s/12)^a * (W/3)^b$ | | [AP-42 13.2.2.2, 11/06] |
| | EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT) | | |
| | k, Empirical Constant PM | = | 4.9 [AP-42 Table 13.2.2-2, 11/06] |
| | k, Empirical Constant PM ₁₀ | = | 1.5 [AP-42 Table 13.2.2-2, 11/06] |
| | k, Empirical Constant PM _{2.5} | = | 0.15 [AP-42 Table 13.2.2-2, 11/06] |
| | s, Surface Material Silt Content (%) | = | 7.1 [AP-42 Table 13.2.2-1, 11/06] |
| | W, Mean Vehicle Weight Loaded (tons) | = | 27 Application |
| | a, Empirical Constant PM | = | 0.7 [AP-42 Table 13.2.2-2, 11/06] |
| | a, Empirical Constant PM ₁₀ and PM _{2.5} | = | 0.9 [AP-42 Table 13.2.2-2, 11/06] |
| | b, Empirical Constant PM, PM ₁₀ and PM _{2.5} | = | 0.45 [AP-42 Table 13.2.2-2, 11/06] |

| | | | |
|-----------------------------|------|---------------------|------|
| PM Emissions(uncontrolled): | PM30 | Miles/Day estimated | 10.2 |
|-----------------------------|------|---------------------|------|

| | | | |
|-----------------|--------------------------------------------------------------------------------|-------|---------|
| Emission Factor | $EF = 4.9 * (7.1/12)^{0.7} * (27/3)^{0.45} =$ | 9.12 | lbs/VMT |
| Calculations | $(9.12 \text{ lbs/VMT}) * (10.2 \text{ miles/day}) =$ | 93.04 | lbs/day |
| | $(93.04 \text{ lbs/day}) * (365 \text{ days/yr}) * (0.0005 \text{ tons/lb}) =$ | 16.98 | TPY |
| | 50% Control Applied | 8.49 | TPY |

PM₁₀ Emissions(uncontrolled):

| | | | |
|-----------------|--------------------------------------------------------------------------------|-------|---------|
| Emission Factor | $EF = 1.5 * (7.1/12)^{0.9} * (27/3)^{0.45} =$ | 2.51 | lbs/VMT |
| Calculations | $(2.51 \text{ lbs/VMT}) * (10.2 \text{ miles/day}) =$ | 25.64 | lbs/day |
| | $(25.64 \text{ lbs/day}) * (365 \text{ days/yr}) * (0.0005 \text{ tons/lb}) =$ | 4.68 | TPY |

PM_{2.5} Emissions(uncontrolled):

| | | | |
|-----------------|-------------------------------------------------------------------------------|------|---------|
| Emission Factor | $EF = 0.15 * (7.1/12)^{0.9} * (27/3)^{0.45} =$ | 0.33 | lbs/VMT |
| Calculations | $(0.33 \text{ lbs/VMT}) * (10.2 \text{ miles/day}) =$ | 3.32 | lbs/day |
| | $(1.63 \text{ lbs/day}) * (365 \text{ days/yr}) * (0.0005 \text{ tons/lb}) =$ | 0.61 | TPY |
| | 50% Control Applied | 0.30 | TPY |

V. Existing Air Quality

The proposed facility will operate in a PM₁₀ non-attainment area in Kalispell, Montana at NE ¼ NW ¼ Section 8, Township 28 North, 21 West, Flathead County, Montana. However, the source has taken federally enforceable limits to minimize allowable emissions and stay below limits which otherwise would have made them conduct a modeling demonstration.

VI. Ambient Air Impact Analysis

The Department determined, based on the proposed area being in an existing industrial area, and limits taken within the permit that the impacts from this permitting action will be minor. The Department believes it will not cause or contribute to any further violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

| YES | NO | |
|-----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X | | 1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights? |
| | X | 2. Does the action result in either a permanent or indefinite physical occupation of private property? |
| | X | 3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property) |
| | X | 4. Does the action deprive the owner of all economically viable uses of the property? |
| | X | 5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)]. |
| | | 5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests? |
| | | 5b. Is the government requirement roughly proportional to the impact of the proposed use of the property? |
| | X | 6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action) |
| | X | 7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? |
| | X | 7a. Is the impact of government action direct, peculiar, and significant? |
| | X | 7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded? |
| | X | 7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question? |
| | X | Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas) |

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Air, Energy & Mining Division
Air Quality Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

DRAFT ENVIRONMENTAL ASSESSMENT (EA)

Issued To: CHS Inc.
Glacier Rail Park
801 Whitefish Stage
Kalispell, MT 59901

Montana Air Quality Permit number (MAQP): #5170-00

Preliminary Determination Issued: 2/3/2017

Department Decision Issued:

Permit Final:

1. *Legal Description of Site:* CHS's country grain elevator would be located approximately one mile northeast of central Kalispell. The legal description of the site is located in Section 8, Township 28 North, Range 21 West. The area surrounding the facility is being developed as an industrial park.
2. *Description of Project:* CHS is proposing to operate both a country grain elevator and a dry fertilizer operation at the site. The company has been asked to relocate from their existing location which is being developed for residential purposes. Permanent grain storage is estimated at 500,000 bushels with dry chemical storage estimated at 4,000 tons. A complete list of the permitted equipment is included in Section I.A of the permit analysis.
3. *Objectives of Project:* Provide the local area with the services of a country grain elevator and a source for dry fertilizer. The project also replaces an existing grain elevator that is in an area of Kalispell planned for infrastructure and residential improvements.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no action" alternative. The "no action" alternative would deny the issuance of the MAQP to the facility. CHS would lack the process equipment to for creating their product and could potentially lose business to competitors. Any potential air emission increases that would be authorized by issuing the MAQP would not occur. However, the Department does not consider the "no action" alternative to be appropriate because CHS has demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no action" alternative was eliminated from further consideration. Other alternatives considered were discussed in the Best Available Control Technology analysis.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #5170-00.

6. *Regulatory effects on private property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS:

The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

The proposed project would provide for the construction and operation of a facility which would provide both country grain elevator services and dry fertilizer storage. The facility would have permanent grain storage and permanent dry fertilizer storage. The facility would also utilize a natural gas-fired grain dryer. Conditions requiring control mechanisms have been placed within MAQP #5170-00 to ensure that only minor air quality impacts would occur. Additionally, limitations established within MAQP #5170-00 would minimize air pollution. Overall, any adverse impact on terrestrial and aquatic life and habitats is anticipated to be minor.

B. Water Quality, Quantity, and Distribution

This permitting action would have little or no effect on the water quality, water quantity, and distribution, as there would be no discharge to groundwater or surface water associated with the completed project. Therefore, the project would have minor, if any, impacts to water quality, quantity or distribution in the area.

C. Geology and Soil Quality, Stability, and Moisture

This permitting action would have a minor effect on geology and soil properties with land disturbances associated with construction of the facility. The Department determined that any impacts from deposition would be minor due to dispersion characteristics of pollutants, the atmosphere, and conditions that would be placed in MAQP #5170-00.

D. Vegetation Cover, Quantity, and Quality

The proposed project would have minor impacts on the surrounding vegetation because of new construction at the facility. The existing surrounding land is currently industrial in nature. The PM, PM₁₀, and PM_{2.5} emissions from this project may have a minor effect on the surrounding vegetation; however, the air quality permit associated with this project would contain limitations to minimize the effect of the emissions on the surrounding environment. Overall, this project would have minor effects on the vegetation cover, quantity and quality.

E. Aesthetics

Construction and operation of the dual purpose grain elevator and dry fertilizer storage would change the aesthetics of the current site but the surrounding area is being developed as an industrial park. During harvest time and the time of field application, additional traffic would accompany the facility. The new facility would have minor impacts on the surrounding property from both the visual perspective, as well as noise pollution.

F. Air Quality

The air quality of the area would realize minor impacts from the proposed project because the facility would emit the following air pollutants: PM, PM₁₀, and PM_{2.5}. A small amount of NO_x, SO₂, CO and VOCs will also be emitted by the grain dryer. The location planned for the facility is located within a PM₁₀ non-attainment area. However, the allowable emissions in the permit and control methods required should not result in a change in the non-attainment area air quality. These emissions would be minimized by limitations and conditions that would be included in MAQP #5170-00. While deposition of pollutants would occur as a result of the new facility, the Department determined that the impacts from deposition of pollutants would be minor due to dispersion characteristics of pollutants, the atmosphere (wind speed, wind direction, ambient temperature, etc.), and conditions that would be placed in MAQP #5170-00. The air concentration of pollutants would be relatively small, and the corresponding deposition of those air pollutants would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS) on the original permit application. The area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. The proposed location is approximately 1,000 feet from the Flathead River resulting in quite a few species that show up on the Species of Concern Data Report. These include Great Blue Heron, Bald Eagle, Westslope Cutthroat Trout, Bull Trout, Little Brown Myotis, Hoary Bat, Hooked Snowfly, and Alberta Snowfly. Because emission increases are minor, and disturbance is at an existing industrial site, the Department has determined that there would be a minor disturbance to unidentified unique, endangered, fragile, or limited environmental resources in the area.

H. Demands on Environmental Resource of Water, Air, and Energy

The proposed project would have minor impacts on the demands for the environmental resources of air and water because the facility would be a source of air pollutants. Deposition of pollutants would occur as a result of operating the facility; however, as explained in Section 7.F of this EA, the Department determined that any impacts on air and water resources from the pollutants (including deposition) would be minor. The Department determined that controlled emissions from the source would not cause or contribute to a violation of any ambient air quality standard. Therefore, any impacts to air quality from the addition of the new equipment would be minor.

The proposed project would be expected to have minor impacts on the demand for the environmental resource of energy because of additional energy usage would be required at the site. The impact on the demand for the environmental resource of energy would be minor because the facility does not operate year round. Overall, the impacts for the demands on the environmental resources of water, air, and energy would be minor.

I. Historical and Archaeological Sites

Since the site is an existing industrial area, the Department determined that the chance of the new equipment impacting any historical and archaeological sites in the area would be minor. The SHPO inventory primarily indicates the presence of private historical residences in the general vicinity but none are noted at the location of the industrial park.

J. Cumulative and Secondary Impacts

The proposed project would cause minor effects on the physical and biological aspects of the human environment because the project would cause a slight increase in emissions of PM, PM₁₀, and PM_{2.5} in the proposed area. However, conditions have been placed in MAQP #5170-00 to ensure that only minor air quality impacts would occur. Limitations would be established in the permit to minimize air pollution. Overall, any impacts to the physical and biological environment would be minor.

SUMMARY OF COMMENTS ON POTENTIAL SOCIAL AND ECONOMIC EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The proposed project would not cause disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the proposed project is being constructed in an industrial area.

B. Cultural Uniqueness and Diversity

Only minor impacts to the cultural uniqueness and diversity of the area would be anticipated as the location is already largely industrial. Operation of the dual purpose grain elevator and dry fertilizer storage facility is not expected to impact the cultural uniqueness and diversity. In addition, based on the SHPO cultural resource inventory for the area, there is a low likelihood cultural properties will be impacted as the inventory mostly includes references to private historical residences. Therefore, the cultural uniqueness and diversity of the area would not likely be affected.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor impacts to the local and state tax base and tax revenue as a result of the proposed facility. Up to ten employees may be employed but the work would be seasonable for some of the jobs. The proposed project would also provide temporary construction jobs. However, any construction related jobs would be temporary and any corresponding impacts on the tax base/revenue in the area would be minor. Overall, any impacts to the local and state tax base and tax revenue would be minor.

D. Agricultural or Industrial Production

The land at the proposed location is currently used for industrial purposes and is being redeveloped as a new industrial park. The proposed project would have a minor impact on agricultural production as area farmers already have access to the existing facility which is being replaced. However, because the facility would be relatively small by industrial standards, only minor impacts to industrial production would be expected.

E. Human Health

The proposed project would result in minor, if any, impacts to human health. As explained in Section 7.F of this EA, deposition of pollutants would occur; however, the Department determined that the proposed project would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to be protective of human health. Overall any impacts to public health would be minor.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would be implemented within an area currently utilized for industrial purposes. No impacts to access and quality of recreational and wilderness activities in the project area are anticipated.

G. Quantity and Distribution of Employment

The proposed project would have minor impacts on the quantity and distribution of employment as a number of temporary construction employees would be hired as a result of the proposed project. Up to ten employees may be employed but due to the seasonal nature of the facility, these are not all full time jobs. Any impacts to the quantity and distribution of employment would be minor due to the seasonal nature of the facility.

H. Distribution of Population

The proposed project would have minor impacts on the employment and population of the area as up to ten employees and temporary construction employees would be required for the facility. However, any impacts to the quantity and distribution of employment from construction related employment would be minor due and because the operations are seasonal in nature. Overall, any impacts to the distribution of population in the area would be minor.

I. Demands of Government Services

There would be minor impacts on the demands for government services because additional time would be required by government agencies to issue MAQP #5170-00 and, in the future, to assure compliance with applicable rules, standards, and conditions that would be contained in MAQP #5170-00. Overall, any demands for government services to regulate the facility or activities associated with the facility would be minor.

J. Industrial and Commercial Activity

Only minor impacts would be expected on local industrial and commercial activity because the proposed facility is replacing an existing facility which is being shut down. The new facility may provide some additional services beyond what the existing facility provided but these would only provide a minor increase in industrial and commercial activity.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals affected by issuing MAQP #5170-00. This permit would contain limits for protecting air quality and keeping facility emissions in compliance with any applicable ambient air quality standards. Because of the seasonal nature, any impacts from the facility would be minor.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social aspects of the human environment in the immediate area. Due to the facility replacing an existing facility, the industrial production, employment, and tax revenue (etc.) impacts resulting from the proposed project would be minor. In addition, the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in MAQP #5170-00.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a dual purpose grain elevator and dry fertilizer storage facility. MAQP #5170-00 would include conditions and limitations to ensure the facility would operate in compliance with all applicable air quality rules and regulations. In addition, there are no major or unknown effects associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Natural Heritage Program and the Montana Historical Society.

Individuals or groups contributing to this EA: Montana Department of Environmental Quality, Montana Natural Heritage Program, Montana Historical Society.

EA prepared by: C. Henrikson

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